1: Cancer Res. 1997 Aug 1;57(15):3281-7. Related Articles, Links

Cloning of P2XM, a novel human P2X receptor gene regulated by p53.

Urano T, Nishimori H, Han H, Furuhata T, Kimura Y, Nakamura Y, Tokino T.

Laboratory of Molecular Medicine, The Institute of Medical Science, The University of Tokyo, Minato-ku, Japan.

Through cloning of functional p53-binding sites (p53-tagged sites) from the human genome, we isolated a novel gene inducible by wild-type p53. Its cDNA sequence contained an open reading frame encoding a 431-amino acid peptide that showed a significant homology with members of the P2X family. This protein also revealed a similarity to RP-2, a gene activated in thymocytes undergoing programmed cell death. Northern blot analysis showed that it was expressed predominantly in skeletal muscle. Hence, we designated the gene P2XM (P2X specifically expressed in skeletal muscle). P2XM was localized to chromosomal band 22q11, where frequent loss of heterozygosity has been observed in rhabdoid tumors. Although we detected no genetic alteration in the coding sequences, one of four rhabdomyosarcoma cell lines examined had completely lost expression of this gene. Furthermore, a minor splice variant lacking a part of exon 1 that would encode residues corresponding to transmembrane domain M1 was relatively more abundant in two of seven sarcoma cell lines, one of which was derived from a rhabdomyosarcoma, and the other was derived from an osteosarcoma. The results suggest that P2XM may play a significant role in the proliferation and/or differentiation of skeletal muscle cells and that its altered expression may be involved in the development of some sarcomas.

PMID: 9242461 [PubMed - indexed for MEDLINE]

L4 ANSWER 11 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2000:138518 USPATFULL

TITLE: Purinergic receptor

INVENTOR(S): Buell, Gary Nutter, Geneva, Switzerland
Surprenant, Annmarie, Geneva, Switzerland
Kawashima, Eric, Geneva, Switzerland

PATENT ASSIGNEE(S): Glaxo Group Limited, Greenford, United Kingdom (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6133434		20001017	
APPLICATION INFO.:	US 1997-842079		19970428	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Spector, Lorraine
LEGAL REPRESENTATIVE: Nixon & Vanderhye P.C.
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 47 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 1652

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD The proteins, polypeptides and peptides of the invention can be used as antigens to generate **P2X**.sub.7 specific **antibodies**. Methods of antibody generation are well known in the art. Both monoclonal and polyclonal antibodies are contemplated, as are antigen. . .

DETD . . . with PBS containing 5% bovine serum albumin, 5% goat serum with 1% Triton X-100. After blocking, sections were incubated with **anti-P2X**.sub.7 **antibody** at 10 mg/ml for 2 h at room temperature or 16 h at 4.degree. C., then washed in PBS. The. . .

DETD The specificity of the **anti-P2X**.sub.7 **antibody** was tested by Western blotting. Cells were harvested with PBS containing 10 mM EDTA, washed twice and resuspended in PBS. . . under reducing conditions. Separated proteins were transfered to a nitrocellulose membrane (Novex, San Diego, Calif.). The membrane was incubated with **anti-P2X**.sub.7 **antibody**, followed by incubation with peroxidase-coupled sheep anti-rabbit IgG (Dako, Denmark) and developed using the ECL system (Amersham, Buckinghamshire, UK). Proteins. . .

antibodies

L11 ANSWER 20 OF 25 USPATFULL on STN

ACCESSION NUMBER: 2001:51805 USPATFULL

TITLE: Nucleic acids encoding a functional human purinoreceptor P2X3 and P2X6, and methods of production and use thereof

INVENTOR(S): Lynch, Kevin J., Gurnee, IL, United States
Burgard, Edward C., Libertyville, IL, United States
van Biesen, Tim, Chicago, IL, United States

PATENT ASSIGNEE(S): Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6214581	B1	20010410	
APPLICATION INFO.:	US 1998-191136		19981113	(9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-8526, filed on 16 Jan 1998, now abandoned Continuation-in-part of Ser. No. US 1998-8185, filed on 16 Jan 1998, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-71298P	19980116 (60)
	US 1998-71669P	19980116 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ulm, John
LEGAL REPRESENTATIVE: Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 16 Drawing Figure(s); 16 Drawing Page(s)
LINE COUNT: 2829

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Human P2X.sub.3 and P2X.sub.6 **purinergic receptor** polypeptides are provided. Nucleic acid molecules encoding the aforementioned human P2X receptor polypeptide, and vectors and host cells containing such. . .

DETD . . . . above P2X receptors but also methods for screening compounds using the receptor and cells expressing the receptor. Further, polynucleotides and **antibodies** which can be used in methods for detection of the receptor, as well as the reagents useful in these methods,. . .

DETD . . . . of Ligand Binding, Wiley-Liss, Inc., N.Y.; Michel et al. (1997) Mol. Pharmacol. 51:524-532). Alternatively, expression can be detected by utilizing **antibodies** or functional measurements, i.e., ATP-stimulated cellular depolarization using methods that are well known to those skilled in the art. For. . .

DETD Furthermore, each specific P2X polypeptide or fragment(s) thereof can be used to prepare monoclonal **antibodies** using techniques that are well known in the art. The specific P2X receptor or relevant fragments can be obtained using. . . specific P2X polypeptide or fragment(s) thereof can be synthesized using conventional polypeptide synthetic techniques as known in the art. Monoclonal **antibodies** that display specificity and selectivity for a particular P2X polypeptide can be labeled with a measurable and detectable moiety, for. . . fluorescent moiety, radiolabels, enzymes, chemiluminescent labels and the like, and used in in vitro assays. It is theorized that such **antibodies** could be used to identify wild-type or variant P2X receptor polypeptides for immuno-diagnostic purposes. For example, **antibodies** have been generated to detect amyloid b1-40 v. 1-42 in brain tissue (Wisniewski et al. (1996) Biochem. J. 313:575-580; also. . .

DETD . . . . e.g., Winzor et al. (1995) Quantitative Characterization of Ligand Binding, Wiley-Liss, Inc., N.Y.). Alternatively, expression can

be detected by utilizing **antibodies** or functional measurements, i.e., ATP- or UTP-stimulated cellular depolarization using methods that are well known to those skilled in the. . .

L24 ANSWER 27 OF 33 USPATFULL on STN

ACCESSION NUMBER:	2001:29315 USPATFULL
TITLE:	Method of screening for compounds that bind **P2x** receptor
INVENTOR(S):	Valera, Soledad, Geneva, Switzerland Buell, Gary N, Geneva, Switzerland
PATENT ASSIGNEE(S):	Glaxo Group Limited, Greenford, United Kingdom (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6194162	B1	20010227	
APPLICATION INFO.:	US 1999-363745		19990730	(9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 750134, now patented, Pat. No. US 5985603

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1994-10664	19940527
	GB 1995-2480	19950209

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Mertz, Prema
ASSISTANT EXAMINER:	Murphy, Joseph F.
LEGAL REPRESENTATIVE:	Nixon & Vanderhye P.C.
NUMBER OF CLAIMS:	6
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	29 Drawing Figure(s); 19 Drawing Page(s)
LINE COUNT:	1063

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 13 OF 33 PCTFULL COPYRIGHT 2003 Univentio on STN
ACCESSION NUMBER: 1998018916 PCTFULL ED 20020514
TITLE (ENGLISH): HUMAN **P2X** PURINORECEPTOR
TITLE (FRENCH): PURINO-RECEPTEUR **P2X** HUMAIN
INVENTOR(S): HILLMAN, Jennifer, L.;
COLEMAN, Roger
PATENT ASSIGNEE(S): INCYTE PHARMACEUTICALS, INC.;
HILLMAN, Jennifer, L.;
COLEMAN, Roger
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9818916	A1	19980507

DESIGNATED STATES
W: AT AU BR CA CH CN DE DK ES FI GB IL JP KR MX NO NZ RU
SE SG US GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU
TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT
SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
APPLICATION INFO.: WO 1997-US18370 A 19971015
PRIORITY INFO.: US 1996-8/742,621 19961030
TIEN HUMAN **P2X** PURINORECEPTOR
TIFR PURINO-RECEPTEUR **P2X** HUMAIN
ABEN The present invention provides a novel human **P2X** purinoreceptor (HPURR) and polynucleotides which identify and encode HPURR. The invention also provides genetically engineered expression vectors and host cells. . . .
ABFR Cette invention concerne un nouveau purino-recepteur **P2X** humain (HPURR), ainsi que des nucleotides permettant d'identifier et de coder ce HPURR. Cette invention concerne egalement des vecteurs d'expression. . . .

DETD . . . HPURR in infected host cells (Logan and Shenk (1984) Proc. Nad. Acad. Sci. 81:3655-3659). In addition, transcription enhancers, such as the Rous **sarcoma** virus (RSV) enhancer, may be used to increase expression in mammalian host cells.

. . . . ion transport, signal transmission, and apoptosis. Such diseases include, but are not limited to, chronic pain, neuropathic pain such as diabetic-, **cancer**-, and AIDS-related, neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, Huntington's disease, Creutzfeld-Jacob disease, and amyotrophic lateral sclerosis, and dementias, including AIDS-related, as. . . .

. . . . al. (I 983) Immunol. Today 4:72; Cote et al. (1983) Proc. Natl. Acad. Sci. 80:2026-2030; Cole et al. (1985) Monoclonal Antibodies and **Cancer** Therap , Alan R. Liss Inc., New York, NY, pp. 77-96).

For any compound, the therapeutically effective dose can be estimated initially either in cell culture assays, e.g., of **neoplastic** cells, or in animal models, usually mice, rabbits, dogs, or pigs. The animal model may also be used to determine the. . . .

. . .
osteoarthritis, asthma, systemic
lupus, myasthenia gravis, diabetes mellitus, osteoporosis,
glomerulonephritis, and scleroderma;
neurological diseases including chronic pain, neuropathic pain such as
diabetic-, **cancer**-, and
AIDS-related, neurodegenerative diseases such as Alzheimer's disease,
Parkinson's disease,
Huntington's disease, Creutzfeld-Jacob disease, and amyotrophic lateral
sclerosis, and dementias,
such as AIDS-related,. . .

L24 ANSWER 26 OF 33 USPATFULL on STN

ACCESSION NUMBER:	2001:51805 USPATFULL		
TITLE:	Nucleic acids encoding a functional human purinoreceptor **P2X3** and **P2X6**, and methods of production and use thereof		
INVENTOR(S):	Lynch, Kevin J., Gurnee, IL, United States Burgard, Edward C., Libertyville, IL, United States van Biesen, Tim, Chicago, IL, United States		
PATENT ASSIGNEE(S):	Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)		

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6214581	B1	20010410
APPLICATION INFO.:	US 1998-191136		19981113 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-8526, filed on 16 Jan 1998, now abandoned Continuation-in-part of Ser. No. US 1998-8185, filed on 16 Jan 1998, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-71298P	19980116 (60)
	US 1998-71669P	19980116 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Ulm, John
LEGAL REPRESENTATIVE:	Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS:	14
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	16 Drawing Figure(s); 16 Drawing Page(s)
LINE COUNT:	2829

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L11  ANSWER 19 OF 25  USPATFULL on STN
ACCESSION NUMBER:       2001:82541  USPATFULL
TITLE:                  Nucleic acids encoding a functional human
                        purinoreceptor P2X2 and P2X4, and methods of production
                        and use thereof
INVENTOR(S):            Lynch, Kevin J., Gurnee, IL, United States
                        Burgard, Edward C., Libertyville, IL, United States
                        Metzger, Randy E., Gurnee, IL, United States
                        Niforatos, Wende, Chicago, IL, United States
                        Touma, Edward B., Chicago, IL, United States
                        Van Biesen, Tim, Chicago, IL, United States
PATENT ASSIGNEE(S):     Abbott Laboratories, Abbott Park, IL, United States
                        (U.S. corporation)

                             NUMBER        KIND    DATE
                        --------------- ------ --------
PATENT INFORMATION:     US 6242216        B1   20010605
APPLICATION INFO.:      US 1998-191608         19981113  (9)
RELATED APPLN. INFO.:   Continuation-in-part of Ser. No. US 1998-137458, filed
                        on 20 Aug 1998

                               NUMBER        DATE
                        ----------------- --------
PRIORITY INFORMATION:   US 1997-65822P     19971114 (60)
DOCUMENT TYPE:          Utility
FILE SEGMENT:           Granted
PRIMARY EXAMINER:       Ulm, John
LEGAL REPRESENTATIVE:   Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS:       20
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     29 Drawing Figure(s); 15 Drawing Page(s)
LINE COUNT:             1329
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
```

AB Human P2X.sub.2 and P2X.sub.4 **purinergic receptor** polypeptides are provided. Nucleic acid molecules encoding the aforementioned human P2X receptor polypeptide, and vectors and host cells containing such. . .

DETD . . . above P2X receptors but also methods for screening compounds using the receptor and cells expressing the receptor. Further, polynucleotides and **antibodies** which can be used in methods for detection of the receptor, as well as the reagents useful in these methods,. . .

DETD Michel et al. (1997) Mol. Pharmacol. 51:524-532). Alternatively, expression can be detected by utilizing **antibodies** or functional measurements, i.e., ATP-stimulated cellular depolarization using methods that are well known to those skilled in the art. For. . .

DETD Furthermore, each specific P2X polypeptide or fragment(s) thereof can be used to prepare monoclonal **antibodies** using techniques that are well known in the art. The specific P2X receptor or relevant fragments can be obtained using. . . specific P2X polypeptide or fragment(s) thereof can be synthesized using conventional polypeptide synthetic techniques as known in the art. Monoclonal **antibodies** that display specificity and selectivity for a particular P2X polypeptide can be labeled with a measurable and detectable moiety, for. . . fluorescent moiety, radiolabels, enzymes, chemiluminescent labels and the like, and used in in vitro assays. It is theorized that such **antibodies** could be used to identify wild-type or variant P2X receptor polypeptides for immuno-diagnostic purposes. For example, **antibodies** have been generated to detect amyloid b1-40 v. 1-42 in brain tissue (Wisniewski et al. (1996) Biochem. J. 313:575-580; also. . .

L11 ANSWER 10 OF 25 PCTFULL COPYRIGHT 2003 Univentio on STN

ACCESSION NUMBER:	1991016056 PCTFULL ED 20020513
TITLE (ENGLISH):	USE OF **PURINERGIC RECEPTOR** AGONISTS AS ANTINEOPLASTIC AGENTS
TITLE (FRENCH):	EMPLOI D'AGONISTES DE RECEPTEUR PURINERGIQUE UTILISES COMME AGENTS ANTINEOPLASTIQUES
INVENTOR(S):	TREPEL, Jane, B.; FANG, Wei-Gang; PIRNIA, Farzaneh; MYERS, Charles, E., Jr.
PATENT ASSIGNEE(S):	THE UNITED STATES OF AMERICA, as represented by THE SECRETARY, U.S. DEPARTMENT OF COMMERCE
LANGUAGE OF PUBL.:	English
DOCUMENT TYPE:	Patent
PATENT INFORMATION:	

NUMBER	KIND	DATE
WO 9116056	A1	19911031

DESIGNATED STATES
W: AT AU BE CA CH DE DK ES FR GB GR IT JP LU NL SE

APPLICATION INFO.: WO 1991-US1552 A 19910312

PRIORITY INFO.: US 1990-509,183 19900416

TIEN USE OF **PURINERGIC RECEPTOR** AGONISTS AS ANTINEOPLASTIC AGENTS

DETD . . . agonists. For example, specimen cells of such cancers can be tested for expression of P2 purinergic receptors by use of labeled ligand, anti-receptor **antibody**, or by a molecular probe, In addition, cells from fresh specimens can be assayed for Ca 2+ mobilization in response to P2. . .

. . . 19 8 9) . Cel 1 s were incubated at room temperature for 30-60 min.,, washed,, and resuspended in calcium medium. Rabbit anti-fluorescein **antibody** (1 unit/ml, Molecular Probes) was added to the cell suspension to reduce fluorescence background.

CLMEN. . . P2 purinergic receptor agonists, comprising testing specimen cells of said cancer for expression of P. purinergic receptors by use of labeled ligand,, anti-receptor **antibody**, or a molecular probe.

17* A method for determining analogs or derivatives of purinergic receptor agonists therapeutically useful in treating hormone-independent cancers, comprising testing for. . .

L11 ANSWER 10 OF 25 PCTFULL COPYRIGHT 2003 Univentio on STN

ACCESSION NUMBER: 1991016056 PCTFULL ED 20020513

TITLE (ENGLISH): USE OF **PURINERGIC RECEPTOR** AGONISTS AS ANTINEOPLASTIC AGENTS

TITLE (FRENCH): EMPLOI D'AGONISTES DE RECEPTEUR PURINERGIQUE UTILISES COMME AGENTS ANTINEOPLASTIQUES

INVENTOR(S): TREPEL, Jane, B.;
FANG, Wei-Gang;
PIRNIA, Farzaneh;
MYERS, Charles, E., Jr.

PATENT ASSIGNEE(S): THE UNITED STATES OF AMERICA, as represented by THE SECRETARY, U.S. DEPARTMENT OF COMMERCE

LANGUAGE OF PUBL.: English

DOCUMENT TYPE: Patent

PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9116056	A1	19911031

DESIGNATED STATES

W: AT AU BE CA CH DE DK ES FR GB GR IT JP LU NL SE

APPLICATION INFO.: WO 1991-US1552 A 19910312

PRIORITY INFO.: US 1990-509,183 19900416

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L4     ANSWER 7 OF 12    PCTFULL   COPYRIGHT 2003 Univentio on STN
ACCESSION NUMBER:        1995033048 PCTFULL  ED 20020514
TITLE (ENGLISH):         P2X RECEPTORS (PURINOCEPTOR FAMILY)
TITLE (FRENCH):          RECEPTEURS P2X (FAMILLE DES PURINORECEPTEURS)
INVENTOR(S):             VALERA, Soledad;
                         BUELL, Gary, Nutter
PATENT ASSIGNEE(S):      GLAXO GROUP LIMITED;
                         VALERA, Soledad;
                         BUELL, Gary, Nutter
LANGUAGE OF PUBL.:       English
DOCUMENT TYPE:           Patent
PATENT INFORMATION:

                         NUMBER               KIND      DATE
                         --------------------------------
                         WO 9533048             A2 19951207
DESIGNATED STATES
      W:                 AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE
                         HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX
                         NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA US UZ VN
                         KE MW SD SZ UG AT BE CH DE DK ES FR GB GR IE IT LU MC
                         NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
APPLICATION INFO.:       WO 1995-EP1968         A  19950524
PRIORITY INFO.:          GB 1994-9410664.8         19940527
                         GB 1995-9502480.8         19950209
```

L4 ANSWER 11 OF 12 USPATFULL on STN

ACCESSION NUMBER:	2000:138518 USPATFULL			
TITLE:	Purinergic receptor			
INVENTOR(S):	Buell, Gary Nutter, Geneva, Switzerland Surprenant, Annmarie, Geneva, Switzerland Kawashima, Eric, Geneva, Switzerland			
PATENT ASSIGNEE(S):	Glaxo Group Limited, Greenford, United Kingdom (non-U.S. corporation)			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6133434		20001017	
APPLICATION INFO.:	US 1997-842079		19970428	(8)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	Granted			
PRIMARY EXAMINER:	Spector, Lorraine			
LEGAL REPRESENTATIVE:	Nixon & Vanderhye P.C.			
NUMBER OF CLAIMS:	10			
EXEMPLARY CLAIM:	1			
NUMBER OF DRAWINGS:	47 Drawing Figure(s); 18 Drawing Page(s)			
LINE COUNT:	1652			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 8 OF 12 PCTFULL COPYRIGHT 2003 Univentio on STN

ACCESSION NUMBER:	1981000261 PCTFULL ED 20020506
TITLE (ENGLISH):	CHARGE EFFECTS IN IMMUNOASSAYS
TITLE (FRENCH):	EFFETS DE CHARGES DANS LES IMMUNOANALYSES
INVENTOR(S):	GIBBONS I; ULLMAN E; ROWLEY G
PATENT ASSIGNEE(S):	SYVA CO
LANGUAGE OF PUBL.:	English
DOCUMENT TYPE:	Patent
PATENT INFORMATION:	

NUMBER	KIND	DATE
WO 8100261	A1	19810205

DESIGNATED STATES
W: DE GB JP

APPLICATION INFO.:	WO 1980-US455	A	19800423
PRIORITY INFO.:	US 1979-61099		19790726

DETD (P2K2) 5or (**P2X2**) 5
Immunoglobulin D(IgD)
or yD-Globulin (yD)
VII Proconvertin
VIII Antihemophilic globulin
(AHG)
Ix Christmas factor,
plasma thromboplastin
component (PTC)
A U
OMPI
x Stuart-Prower factor,
autoprothrombin III
xi Plasma thromboplastin
antecedent (PTA)
xii Hagemann. factor
XIII Fibrin@stabilizing. . .

L45 ANSWER 20 OF 86 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN

ACCESSION NUMBER: 1998-11352 BIOTECHDS

TITLE: Human gene **P2XM** whose transcription is induced by p53; useful for diagnostic purposes and in development of new anticancer drugs

AUTHOR: Tokino T; Nakamura Y

PATENT ASSIGNEE: Otsuka-Pharm.

LOCATION: Tokyo, Japan.

PATENT INFO: WO 9842835 **1 Oct 1998**

APPLICATION INFO: WO 1998-JP1146 18 Mar 1998

PRIORITY INFO: JP 1997-93044 26 Mar 1997

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: WPI: 1998-532006 [45]

AN 1998-11352 BIOTECHDS

AB A new human gene encoding a specified protein sequence which is significantly homologous to the **P2X** family of ATP receptors and the RP-2 protein which is expressed in T-lymphocytes during apoptosis is claimed. Transcription of the genes is specifically regulated by the **tumor** suppressor gene p53. Also claimed is a **P2XM** gene, which is specifically expressed in skeletal muscle and which has been localized to chromosome-22q11, an area where mutation and sequence losses frequently occur in rhabdoid **sarcomas**. The genes may be used for diagnostic purposes (e.g. by detecting changes in the gene in **sarcomas**), using DNA probes and DNA primers containing or derived from all or part of the genes. The genes may further be used in the development of new anticancer drugs. (43pp)

P2XM = P2X6

L34 ANSWER 30 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1999:466 BIOSIS
DOCUMENT NUMBER: PREV199900000466

TITLE: Expression of functional P2-purinergic receptors in primary cultures of human colorectal **carcinoma** cells.

AUTHOR(S): Hopfner, M.; Lemmer, K.; Jansen, A.; Hanski, C.; Riecken, E.-O.; Gavish, M.; Mann, B.; Buhr, H.; Glassmeier, G.; Scherubl, H.
CORPORATE SOURCE: Abteilung Innere Medizin/Gastroenterol., Universitaetsklinikum Benjamin Franklin, Freie Univ. Berlin, Hindenburgdamm 30, 12200 Berlin Germany

SOURCE: Biochemical and Biophysical Research Communications, (**Oct. 29, 1998**) Vol. 25, No. 3, pp. 811-817.
ISSN: 0006-291X.
DOCUMENT TYPE: Article
LANGUAGE: English

L34 ANSWER 41 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1999:112647 BIOSIS

DOCUMENT NUMBER: PREV199900112647

TITLE: Cytotoxic effects of ATP against B cell **neoplasias** and acute myeloid leukaemia resulting from selective expression of surface P2Z (**P2x7**) purinergic receptors.

AUTHOR(S): Lammas, D. A.; Quibell, K.; Kumararatne, D.; Drayson, M.

CORPORATE SOURCE: Dep. Immunol., Med. Sch., Univ. Birmingham, Birmingham B15 2TT UK

SOURCE: Immunology, (**Dec., 1998**) Vol. 95, No. SUPPL. 1, pp. 31.
Meeting Info.: 6th Annual Congress of the British Society for Immunology Harrogate, England, UK December 1-4, 1998
ISSN: 0019-2805.

DOCUMENT TYPE: Conference

LANGUAGE: English

L34 ANSWER 39 OF 73 BIOSIS

ACCESSION NUMBER: 1998:527623 BIOSIS

DOCUMENT NUMBER: PREV199800527623

TITLE: Development of purinergic receptors of **P2x** -subtype on the megakaroyctic cells (Meg-01) derived from a **leukemia** patient.

AUTHOR(S): Kawa, Kazuyoshi (1)

CORPORATE SOURCE: (1) Dep. Neurophysiol., Tohoku Univ. Sch. Med., 2-1 Seiryo-cho, Sendai, Miyagi 980-8575 Japan

SOURCE: Neuroscience Research Supplement, (1998) No. 22, pp. S92. Meeting Info.: 21st Annual Meeting of the Japan Neuroscience Society and the First Joint Meeting of the Japan Neuroscience Society and the Japanese Society for Neurochemistry Tokyo, Japan September 21-23, 1998 Japan Neuroscience Society . ISSN: 0921-8696.

DOCUMENT TYPE: Conference

LANGUAGE: English

L34 ANSWER 37 OF 73 SCISEARCH COPYRIGHT 2003 THOMSON ISI on STN

ACCESSION NUMBER:	1998:202482 SCISEARCH
THE GENUINE ARTICLE:	ZA381
TITLE:	Cytolytic **P2X** purinoceptors
AUTHOR:	DiVirgilio F (Reprint); Chiozzi P; Falzoni S; Ferrari D; Sanz J M; Venketaraman V; Baricordi O R
CORPORATE SOURCE:	UNIV FERRARA, DEPT EXPT & DIAGNOST MED, SECT GEN PATHOL, VIA BORSARI, 46, I-44100 FERRARA, ITALY (Reprint); UNIV FERRARA, CTR BIOTECHNOL, I-44100 FERRARA, ITALY; UNIV FERRARA, DEPT EXPT & DIAGNOST MED, MED GENET SECT, I-44100 FERRARA, ITALY
COUNTRY OF AUTHOR:	ITALY
SOURCE:	CELL DEATH AND DIFFERENTIATION, (**MAR 1998**) Vol. 5, No. 3, pp. 191-199. Publisher: STOCKTON PRESS, HOUNDMILLS, BASINGSTOKE, HAMPSHIRE, ENGLAND RG21 6XS. ISSN: 1350-9047.
DOCUMENT TYPE:	General Review; Journal
FILE SEGMENT:	LIFE
LANGUAGE:	English
REFERENCE COUNT:	103

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L45 ANSWER 15 OF 86 MEDLINE on STN DUPLICATE 10

ACCESSION NUMBER: 1999366710 MEDLINE
DOCUMENT NUMBER: 99366710 PubMed ID: 10440098
TITLE: Pharmacological characterization of recombinant human and rat **P2X** receptor subtypes.
AUTHOR: Bianchi B R; Lynch K J; Touma E; Niforatos W; Burgard E C; Alexander K M; Park H S; Yu H; Metzger R; Kowaluk E; Jarvis M F; van Biesen T
CORPORATE SOURCE: Neurological and Urological Diseases Research, Pharmaceutical Products Division, Abbott Laboratories, Abbott Park, IL 60064-3500, USA.
SOURCE: EUROPEAN JOURNAL OF PHARMACOLOGY, **(1999 Jul 2)** 376 (1-2) 127-38.
Journal code: 1254354. ISSN: 0014-2999.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 19991012
Last Updated on STN: 19991012
Entered Medline: 19990927

1: Pharmacol Rev. 2001 Mar;53(1):107-18. Related Articles, Links

International union of pharmacology. XXIV. Current status of the nomenclature and properties of P2X receptors and their subunits.

Khakh BS, Burnstock G, Kennedy C, King BF, North RA, Seguela P, Voigt M, Humphrey PP.

Division of Biology 156-29, California Institute of Technology, Pasadena, California, USA. bsk@mrc-lmb.cam.ac.uk

ATP acts as a humoral mediator to control cell function extracellularly. The receptors that mediate the actions of ATP belong to two classes, the metabotropic P2Y receptors and the transmitter-gated, ion channel P2X receptors. This review describes the structure, distribution, function, and ligand recognition characteristics of P2X receptors, which comprise seven distinct subunits that can function as both homo- and hetero- polymers. The pharmacology of P2X receptors is complicated by marked differences between species orthologues. The current nomenclature is based largely on recombinant receptor studies and detailed knowledge of endogenous P2X receptors in native tissues is limited because of lack of good selective agonists and antagonists for each receptor type.

Publication Types:

- Review
- Review, Academic

PMID: 11171941 [PubMed - indexed for MEDLINE]

Display Abstract Show: 20 Sort Send to Text

L24 ANSWER 26 OF 33 USPATFULL on STN
ACCESSION NUMBER: 2001:51805 USPATFULL
TITLE: Nucleic acids encoding a functional human purinoreceptor **P2X3** and **P2X6**, and methods of production and use thereof
INVENTOR(S): Lynch, Kevin J., Gurnee, IL, United States
Burgard, Edward C., Libertyville, IL, United States
van Biesen, Tim, Chicago, IL, United States
PATENT ASSIGNEE(S): Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6214581	B1	20010410
APPLICATION INFO.:	US 1998-191136		19981113 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-8526, filed on 16 Jan 1998, now abandoned Continuation-in-part of Ser. No. US 1998-8185, filed on 16 Jan 1998, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-71298P	19980116 (60)
	US 1998-71669P	19980116 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ulm, John
LEGAL REPRESENTATIVE: Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 16 Drawing Figure(s); 16 Drawing Page(s)
LINE COUNT: 2829
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Nucleic acids encoding a functional human purinoreceptor **P2X3** and **P2X6**, and methods of production and use thereof

AB Human **P2X**.sub.3 and **P2X**.sub.6 purinergic receptor polypeptides are provided. Nucleic acid molecules encoding the aforementioned human **P2X** receptor polypeptide, and vectors and host cells containing such nucleic acid molecules, are also provided. In addition, methods are provided for producing these **P2X** receptor polypeptide, as are methods of using such polypeptides and host cells that express the same to screen for compounds having activity on **P2X**.sub.3 and **P2X**.sub.6 receptors. Further, therapeutic uses involving aspects of these receptors are contemplated.

SUMM . . . supra, pp 337-345), immune and inflammatory diseases (Di Virgilio et al. (1995) in: Belardinelli et al. (eds), supra, pp 329-335), **cancer** (Rapaport (1993) Drug Dev. Res. 28:428-431), constipation and diarrhea (Milner et al. (1994) in: Kamm et al. (eds.) Constipation and. . .

SUMM . . . supra, pp 337-345, immune and inflammatory diseases (Di Virgilio et al. (1995) in: Belardinelli et al. (eds), supra, pp 329-335), **cancer** (Rapaport (1993) Drug Dev. Res. 28:428-431), constipation and diarrhea (Milner et al. (1994) in: Kamm et al. (eds.) Constipation and. . .

DETD . . . of a polynucleotide into a prokaryotic cell. "Transformation" of a eukaryotic cell also may refer to the formation of a **cancerous** or **tumorigenic** state.

DETD . . . cells also are known in the art and include viral promoters such as that from Simian Virus 40 (SV40), Rous **sarcoma** virus (RSV), adenovirus (ADV), bovine papilloma virus (BPV) and cytomegalovirus (CMV). Mammalian cells also may require terminator sequences and poly. . .

DETD . . . identical to the human P2X6 receptor described herein which is expressed at high levels in skeletal muscle (Urano et al. **Cancer**

Res. 57:3281-3287 (1997)). Additionally, this gene is inducible by the p53 **tumor** suppressor gene product, suggesting that the human P2X.sub.6 receptor plays a role in skeletal muscle cell proliferation and/or differentiation. Therefore, agents that modulate the activity of the P2X.sub.6 receptor may be useful as therapeutics for musculoskeletal disorders such as **sarcomas**. The practice of the present invention will employ, unless otherwise indicated, conventional techniques of molecular biology, microbiology, recombinant DNA technology,. . .

DETD . . . of a polynucleotide into a prokaryotic cell. "Transformation" of a eukaryotic cell also may refer to the formation of a **cancerous** or **tumorigenic** state.

DETD . . . cells also are known in the art and include viral promoters such as that from Simian Virus 40 (SV40), Rous **sarcoma** virus (RSV), adenovirus (ADV), bovine papilloma virus (BPV) and cytomegalovirus (CMV). Mammalian cells also may require terminator sequences and poly. . .

Blast 2 Sequences results

PubMed | Entrez | BLAST | OMIM | Taxonomy | Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTP 2.2.6 [Apr-09-2003]

Matrix BLOSUM62 gap open: 11 gap extension: 1
x_dropoff: 50 expect: 10.0 wordsize: 3 Filter Align

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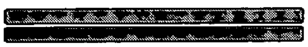
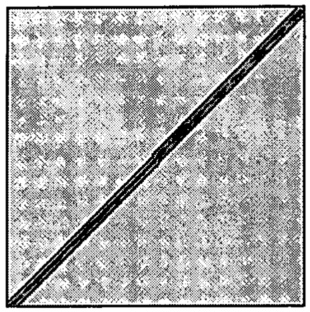
Sequence 2 lcl|seq_2 **Length** 431 (1 .. 431)





P2XM
P2X6

NOTE:The statistics (bitscore and expect value) is calculated based on the size of nr database

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Identities = 431/431 (100%), Positives = 431/431 (100%)
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Sbjct: 1   MGSPGATTGWGLLDYKTEKYVMTRNWRVGALQRLLQFGIVVYVVGWALLAKKGYQERDLE 60

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Sbjct: 61  PQFSIITKLKGVSVTQIKELGNRLWDVADFVKPPQGENVFFLVTNFLVTPAQVQGRCPEH 120

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Sbjct: 361 RTKYEEAKAPKATANSVWRELALASQARLAECLRRSSAPAPTATAAGSQTQTPGWPCPSS 420
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Gapped
Lambda      K       H
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Gap Penalties: Existence: 11, Extension: 1
Number of Hits to DB: 2003
Number of Sequences: 0
Number of extensions: 131
Number of successful extensions: 1
Number of sequences better than 10.0: 1
Number of HSP's better than 10.0 without gapping: 1
Number of HSP's successfully gapped in prelim test: 0
Number of HSP's that attempted gapping in prelim test: 0
Number of HSP's gapped (non-prelim): 1
length of query: 431
length of database: 498,883,957
effective HSP length: 130
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effective search space: 150164031927
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A: 40
X1: 16 ( 7.4 bits)
X2: 129 (49.7 bits)
X3: 129 (49.7 bits)
S1: 41 (21.8 bits)
S2: 76 (33.9 bits)
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L24 ANSWER 16 OF 33 PCTFULL COPYRIGHT 2003 Univentio on STN
ACCESSION NUMBER: 1995033048 PCTFULL ED 20020514
TITLE (ENGLISH): **P2X** RECEPTORS (PURINOCEPTOR FAMILY)
TITLE (FRENCH): RECEPTEURS **P2X** (FAMILLE DES PURINORECEPTEURS)
INVENTOR(S): VALERA, Soledad;
BUELL, Gary, Nutter
PATENT ASSIGNEE(S): GLAXO GROUP LIMITED;
VALERA, Soledad;
BUELL, Gary, Nutter
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9533048	A2	19951207

DESIGNATED STATES
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE
HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA US UZ VN
KE MW SD SZ UG AT BE CH DE DK ES FR GB GR IE IT LU MC
NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
APPLICATION INFO.: WO 1995-EP1968 A 19950524
PRIORITY INFO.: GB 1994-9410664.8 19940527
GB 1995-9502480.8 19950209

TIEN **P2X** RECEPTORS (PURINOCEPTOR FAMILY)
TIFR RECEPTEURS **P2X** (FAMILLE DES PURINORECEPTEURS)

ABEN The **P2X** receptor of ATP has been cloned and expressed by recombinant DNA technology, so the receptor can be prepared free from other ATP receptors. The **P2X** receptor enables antibodies to be prepared and is useful in screening compounds for use in a variety of diseases and. . .

ABFR Le recepteur **P2X** d'adenosine 5'-triphosphate (ATP) a ete clone et exprime par technique de recombinaison d'ADN, de sorte que le recepteur puisse etre obtenu separement, sans les autres recepteurs d'ATP. Le recepteur **P2X** permet de preparer des anticorps, et peut etre utilise pour detecter des composes a utiliser dans une variete de maladies. . .

DETD . . . of hP 2X from urinary bladder
isolation of human P2X cDNA Human urinary bladder tissue was obtained from a cystectomy for a bladder **tumor**. The patient showed no symptoms of bladder instability or urodynamic abnormalities. Only those portions, surrounding the **tumor**, which appeared macroscopically normal (Palea et al - supra) were used. Total RNA was isolated by guanidinium isothiocyanate and poly A' RNA. . .

. . . .
analysis (Figure 7). HL60 cells can be differentiated into distinct lineages, depending on the inductant (Koeffler, Induction of Differentiation of Human Acute Myelogenous **Leukemia** Cells: Therapeutic Implications Blood 62: 709-721 (1983)) . Induction of macrophage-like characteristics with phorbol diesters or granulocytic differentiation with DMSO or dibutryl. . .

L56 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1992:81141 CAPLUS
DOCUMENT NUMBER: 116:81141
TITLE: P2-purinergic receptor agonists inhibit the growth of androgen-independent prostate carcinoma cells
AUTHOR(S): Fang, Wei Gang; Pirnia, Farzaneh; Bang, Yung Jue; Myers, Charles E.; Trepel, Jane B.
CORPORATE SOURCE: Div. Cancer Treat., Natl. Cancer Inst., Bethesda, MD, 20892, USA
SOURCE: Journal of Clinical Investigation (**1992**), 89(1), 191-6
CODEN: JCINAO; ISSN: 0021-9738
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To develop a new approach to the treatment of advanced, hormone-refractory prostate cancer, the signal transduction regulating the growth of human androgen-independent prostate carcinoma cell lines were studied. Agonist-stimulated Ca2+ mobilization, a crit. regulatory event in other secretory cell types, was studied as a means of identifying previously undescribed plasma membrane receptors that may transduce a growth inhibitory signal. In all of the cell lines tested, P2-purinergic receptor agonists, including ATP and certain hydrolysis-resistant adenine nucleotides, induced a rapid, transient increase in cytoplasmic free Ca2+ that was detectable at 50 to 100 nM ATP, was maximal at 100 .mu.M ATP, and was inhibited .apprx.50% by chelation of extracellular Ca2+. Within 8 s after addn., ATP stimulated accumulation of the polyphosphatidylinositol products inositol 1,4,5-trisphosphate, inositol 1,3,4-trisphosphate, and inositol tetrakisphosphate. In addn. to stimulating phosphatidylinositol turnover and Ca2+ mobilization, ATP and hydrolysis-resistant ATP analogs induced >90% inhibition of the growth of all lines tested. These data demonstrate that human androgen-independent prostate carcinoma cells express functional P2-purinergic receptors linked to phospholipase C, and that agonists of this receptor are markedly growth inhibitory, suggesting a novel therapeutic approach to this common adult neoplasm.

L56 ANSWER 15 OF 17 CAPLUS

ACCESSION NUMBER: 1991:623457 CAPLUS
DOCUMENT NUMBER: 115:223457
TITLE: Use of purinergic receptor agonists as antineoplastic agents
INVENTOR(S): Trepel, Jane B.; Fang, Wei-Gang; Pirnia, Farzaneh; Myers, Charles E., Jr.
PATENT ASSIGNEE(S): National Institutes of Health, USA
SOURCE: U. S. Pat. Appl., 33 pp. Avail. NTIS Order No. PAT-APPL-6-509 183. CODEN: XAXXAV
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
US 509183	A0	19910301	US 1990-509183	19900416	<--
WO 9116056	A1	19911031	WO 1991-US1552	19910312	<--
W: AU, CA, JP					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE					
AU 9175792	A1	19911111	AU 1991-75792	19910312	<--
US 5415873	A	19950516	US 1993-131033	19931004	<--
US 5641500	A	19970624	US 1995-446954	19950515	<--

PRIORITY APPLN. INFO.:		
	US 1990-509183	19900416
	WO 1991-US1552	19910312
	US 1992-888292	19920526
	US 1993-131033	19931004

AB Purinergic receptor agonists inhibit hormone-independent, including androgen-independent, **cancer** cells which express the **purinergic receptor**. Methods to screen for advanced cancers that are amenable to such treatment and for new, potent analogs or derivs. of purinergic receptor agonists are also disclosed. A wide variety of surface receptors that induced an increase in Ca2+ was found in human prostate carcinoma cell lines. ATP produced the largest Ca2+ responses of the agonists tested. This response was so large that there was almost complete depletion of internal Ca2+ stores. Cell lines DU145, PC-3, and PC-3M expressed a P2 subtype purinergic receptor with agonist potency ATP > ADP > AMP > adenosine. Nonhydrolyzable analogs .alpha.,.beta.-methylene ATP, .beta.,.gamma.-methylene ATP, 5'-adenylylimidodiphosphate (AMP-PNP), and adenosine -5'-O-(3-thiophosphate) had agonist activity. ATP and AMP-PNP inhibited growth of the above 3 cell lines. The cell growth was assocd. with an increase in DNA strand breaks.

L62 ANSWER 21 OF 22 USPATFULL on STN

ACCESSION NUMBER:	95:43035 USPATFULL
TITLE:	Use of purinergic receptor agonists as antineoplastic agents
INVENTOR(S):	Trepel, Jane B., Bethesda, MD, United States Fang, Wei-Gang, Bethesda, MD, United States Pirnia, Farzaneh, Potomac, MD, United States Myers, Jr., Charles E., Rockville, MD, United States
PATENT ASSIGNEE(S):	The United States of America as represented by the Department of Health and Human Services, Washington, DC, United States (U.S. government)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5415873		19950516
APPLICATION INFO.:	US 1993-131033		19931004 (8)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1992-888292, filed on 26 May 1992, now abandoned which is a continuation of Ser. No. US 1990-509183, filed on 16 Apr 1990, now abandoned
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Kishore, Gollamudi S.
LEGAL REPRESENTATIVE:	Morgan & Finnegan
NUMBER OF CLAIMS:	11
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	18 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT:	603

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM The present invention relates to a method for treating hormone-independent **cancers** via the use of **purinergic receptor** agonists, **diagnostic** uses of these compounds to determine effective treatment for specific **tumors**, a process for screening for new potent analogs of these compounds, and the use of these compounds in facilitating the. . . .

SUMM . . . an androgen-dependent cell line. By incubating the cells in vitro with an agonist of a known cell surface receptor and **detecting** an intracellular response, it became possible to screen for a wide variety of receptors previously unreported on these cells. Ca.sup.2+. . . and Ca.sup.2+ regulated channels. Interestingly, there have not been any reported studies of this signal transduction system in benign or **neoplastic** prostatic tissue. Thus, the results disclosed here are the first report of (1) hormone-stimulated Ca.sup.2+ transients in prostatic cells; (2) hormone-stimulated phosphatidylinositol turnover in prostatic cells; (3) **purinergic receptor** expression on prostatic cells; and (4) **purinergic receptor**-associated cell death in prostatic adenocarcinoma.

L45 ANSWER 9 OF 86 MEDLINE on STN DUPLICATE 5

ACCESSION NUMBER: 2001547250 MEDLINE
DOCUMENT NUMBER: 21477952 PubMed ID: 11593539
TITLE: **P2Z** purinoceptor, a special receptor for apoptosis induced by ATP in human **leukemic** lymphocytes.
AUTHOR: Peng L; Bradley C J; Wiley J S
CORPORATE SOURCE: Department of Laboratory Medicine, First Hospital, West China University of Medical Sciences, Chengdu 610041, China.
SOURCE: CHINESE MEDICAL JOURNAL, **(1999 Apr)** 112 (4) 356-62.
Journal code: 7513795. ISSN: 0366-6999.
PUB. COUNTRY: China
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20011015
Last Updated on STN: 20020122
Entered Medline: 20011207

AB OBJECTIVE: To investigate the role of purinergic **P2Z** receptors for apoptosis of human **leukemic** lymphocytes mediated by extracellular adenosine triphosphate (ATP). METHODS: A total of 13 B-chronic lymphocytic **leukemia** (CLL) patients were studied. Exposure of **leukemic** lymphocytes with (n = 8) or without (n = 5) **P2Z** receptors to ATP, benzoylbenzoic-ATP (BzATP), 2-methylthio-ATP (2MeSATP), adenosine-5' [gamma-thio] triphosphate (ATP-gamma S), and other nucleosides for 8 h in vitro. Apoptosis was detected by electron microscopy (EM), agarose gel electrophoresis, and the quantitative assay-TdT assay. RESULTS: Apoptosis was detected only in **leukemic** lymphocytes with **P2Z** receptors. Using a quantitative assay, ATP-induced DNA strand breaks were found to occur specifically with BzATP, ATP and 2MeSATP, but not for analogue ATP-gamma S nor other nucleosides. Meanwhile, ATP-induced DNA fragmentation was fully blocked by pretreatment with oxidized ATP (OxATP), a compound recently shown to block **P2Z** receptors. Also, it is shown that the Ca2+/calmodulin complex plays a role in the regulation of the apoptosis induced by ATP on CLL cells, because an antagonist of this complex, 1-[N, O-bis (5-isoquinolinesulfonyl)-N-methyl-L-tyrosyl]-4-phenylpiperazine (KN-62) was found to inhibit the ATP-induced apoptosis. Furthermore, choline, an inhibitor of phospholipase D (PLD), is first shown to partially inhibit ATP-induced apoptosis. CONCLUSION: These data indicate that **P2Z** receptors on lymphocytes play an important role in the apoptosis induced by ATP in vitro.

L45 ANSWER 11 OF 86 MEDLINE on STN DUPLICATE 7

ACCESSION NUMBER: 1999145440 MEDLINE

DOCUMENT NUMBER: 99145440 PubMed ID: 9989927

TITLE: Activation of the **P2Z/P2X7** receptor in human lymphocytes produces a delayed permeability lesion: involvement of phospholipase D.

AUTHOR: Fernando K C; Gargett C E; Wiley J S

CORPORATE SOURCE: Sydney University Department of Medicine, The Nepean Hospital, Somerset Street, Penrith, Australia.

SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, **(1999 Feb 15)** 362 (2) 197-202.
Journal code: 0372430. ISSN: 0003-9861.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199903

ENTRY DATE: Entered STN: 19990324
Last Updated on STN: 19990324
Entered Medline: 19990311

AB **Leukemic** lymphocytes possess a cytolytic **P2Z/P2X7** receptor which, when activated by extracellular ATP, opens a Ca2+- and Ba2+-permeable ion channel. This ATP-stimulated influx of divalent cations has been shown to activate an intracellular phospholipase D (PLD) which hydrolyzes membrane phosphatidylcholine. Lymphocytes that were exposed to ATP for 20 min at 37 degrees C, washed, and then incubated without ATP for 2 h showed an increased uptake of propidium2+, a dye widely used to measure cytotoxicity. The potent **P2Z/P2X7** receptor inhibitor, KN-62, which is known to prevent the channel opening when added with ATP, did not block development of the permeability lesion when added 15 min before dye addition. The activity of lymphocyte PLD was stimulated fourfold by ATP and a proportion of this increased activity persisted for several hours after removal of ATP. Loading lymphocytes with intracellular choline+ by prior incubation of cells with ATP in isotonic choline chloride abolished both ATP-stimulated PLD activity and the ATP-induced permeability lesion. Addition of PLD but not phospholipase C to the extracellular medium increased lymphocyte permeability to propidium2+ and this effect was not observed in a choline medium. The cytolytic effect of exogenous PLD together with the inhibitory effect of choline, a product of the PLD reaction, suggests that sustained activation of intracellular PLD may be involved in the ATP-initiated cytolytic pathway.

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L45  ANSWER 20 OF 86  BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN
ACCESSION NUMBER: 1998-11352  BIOTECHDS
TITLE:            Human gene P2XM whose transcription is induced by
                  p53;
                     useful for diagnostic purposes and in development of new
                     anticancer drugs
AUTHOR:           Tokino T; Nakamura Y
PATENT ASSIGNEE:  Otsuka-Pharm.
LOCATION:         Tokyo, Japan.
PATENT INFO:      WO 9842835 1 Oct 1998
APPLICATION INFO: WO 1998-JP1146 18 Mar 1998
PRIORITY INFO:    JP 1997-93044 26 Mar 1997
DOCUMENT TYPE:    Patent
LANGUAGE:         Japanese
OTHER SOURCE:     WPI: 1998-532006 [45]

L45  ANSWER 21 OF 86  CAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:        1998:650172  CAPLUS
DOCUMENT NUMBER:         129:326959
TITLE:                   Cloning of cDNA of a novel p53-inducible human gene
                         P2XM
INVENTOR(S):             Tokino, Takashi; Nakamura, Yusuke
PATENT ASSIGNEE(S):      Otsuka Pharmaceutical Co., Ltd., Japan
SOURCE:                  Jpn. Kokai Tokkyo Koho, 16 pp.
                         CODEN: JKXXAF
DOCUMENT TYPE:           Patent
LANGUAGE:                Japanese
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.       KIND  DATE           APPLICATION NO.  DATE
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     JP 10262681       A2   19981006       JP 1997-93044    19970326 <--
     WO 9842835        A1   19981001       WO 1998-JP1146   19980318 <--
         W:  AU, CA, CN, ID, KR, MX, SG, US
         RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
     AU 9864184        A1   19981020       AU 1998-64184    19980318 <--
     AU 724681         B2   20000928
     EP 1006186        A1   20000607       EP 1998-909733   19980318
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     US 6255472        B1   20010703       US 2000-381681   20000110
PRIORITY APPLN. INFO.:                  JP 1997-93044    A  19970326
                                        WO 1998-JP1146   W  19980318
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L24 ANSWER 15 OF 33 PCTFULL

ACCESSION NUMBER: 1997023218 PCTFULL ED 20020514
TITLE (ENGLISH): A PROCESS FOR REGULATING VAGAL TONE
TITLE (FRENCH): PROCEDE POUR REGULER LE TONUS VAGAL
INVENTOR(S): PELLEG, Amir
PATENT ASSIGNEE(S): PELLEG, Amir
LANGUAGE OF PUBL.: English
DOCUMENT TYPE: Patent
PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9723218	A1	19970703

DESIGNATED STATES
W: AU CA JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
APPLICATION INFO.: WO 1996-US20255 A 19961224
PRIORITY INFO.: US 1995-60/009,228 19951226
US 1996-8/771,581 19961223

ABEN . . . invention provides methods of altering vagal tone in a patient by administering a therapeutically effective amount of a mediator of **P2x** -purinoceptors located on vagal afferent nerve terminals to the patient. Diagnostic applications are also provided.

ABFR . . . tonus vagal chez un patient, en lui administrant une quantite suffisante, pour avoir un effet therapeutique, d'un mediateur des purinorecepteurs **P2x** situes sur les terminaisons afferentes du nerf vague. L'invention concerne egalement des utilisations diagnostiques.

DETD Patent No. 4,673,563. ATP has also been shown to be effective against **cancer** in animal models and in humans. However, the mechanism of action of ATP in this setting involves the immune system and/or direct action on **tumor** cells and is independent of the autonomic nervous system. The use of ATP as anti-**cancer** therapy is the subject of Rapaport, U.S. Patent No. 5,049,372.

L65 ANSWER 2 OF 5 PCTFULL COPYRIGHT 2003 Univentio on STN

ACCESSION NUMBER: 1998019541 PCTFULL ED 20020514

TITLE (ENGLISH): METHODS AND COMPOSITIONS FOR TREATING AND DIAGNOSING TUMORS USING ADENOSINE RECEPTOR ACTIVATED CELLS

TITLE (FRENCH): PROCEDES ET COMPOSITIONS DE TRAITEMENT ET DE DIAGNOSTIC DE TUMEURS METTANT EN OEUVRE DES CELLULES ACTIVEES DU RECEPTEUR DE L'ADENOSINE

INVENTOR(S): NEELY, Constance, F.

PATENT ASSIGNEE(S): LINK TECHNOLOGY, INC.; NEELY, Constance, F.

LANGUAGE OF PUBL.: English

DOCUMENT TYPE: Patent

PATENT INFORMATION:

NUMBER	KIND	DATE
WO 9819541	A1	19980514

DESIGNATED STATES

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU ZW GH KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

APPLICATION INFO.: WO 1997-US19926 A 19971105

PRIORITY INFO.: US 1996-8/748,559 19961108

DETD Fang et al. reported the inhibition of cell growth in hormone-refractory prostate **cancer** cell lines using P2 **purinergic receptor** agonists.

. . .

ftinctionaIP2-purinergic receptors, and proposed that agonists of such receptors be used to inhibit the growth of related neoplasms. Methods of treating prostate **cancers** by administration of a P2 **purinergic receptor** agonist are provided in U.S. Patent 5,415,873.

L24 ANSWER 25 OF 33 USPATFULL on STN

ACCESSION NUMBER: 2001:82541 USPATFULL

TITLE: Nucleic acids encoding a functional human purinoreceptor **P2X2** and **P2X4**, and methods of production and use thereof

INVENTOR(S): Lynch, Kevin J., Gurnee, IL, United States
Burgard, Edward C., Libertyville, IL, United States
Metzger, Randy E., Gurnee, IL, United States
Niforatos, Wende, Chicago, IL, United States
Touma, Edward B., Chicago, IL, United States
Van Biesen, Tim, Chicago, IL, United States

PATENT ASSIGNEE(S): Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6242216	B1	20010605	
APPLICATION INFO.:	US 1998-191608		19981113	(9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-137458, filed on 20 Aug 1998

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-65822P	19971114 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ulm, John
LEGAL REPRESENTATIVE: Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 29 Drawing Figure(s); 15 Drawing Page(s)
LINE COUNT: 1329

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

TI Nucleic acids encoding a functional human purinoreceptor **P2X2** and **P2X4**, and methods of production and use thereof

AB Human **P2X**.sub.2 and **P2X**.sub.4 purinergic receptor polypeptides are provided. Nucleic acid molecules encoding the aforementioned human **P2X** receptor polypeptide, and vectors and host cells containing such nucleic acid molecules, are also provided. In addition, methods are provided for producing these **P2X** receptor polypeptide, as are methods of using such polypeptides and host cells that express the same to screen for compounds having activity on **P2X**.sub.2 and **P2X**.sub.4 receptors. Further, therapeutic uses involving aspects of these receptors are contemplated.

SUMM . . . supra, pp 337-345), immune and inflammatory diseases (Di Virgilio et al. (1995) in: Belardinelli et al. (eds), supra, pp 329-335), **cancer** (Rapaport (1993) Drug Dev. Res. 28:428-431), constipation and diarrhea (Milner et al. (1994) in: Kamm et al. (eds.) Constipation and. . .

DETD . . . of a polynucleotide into a prokaryotic cell. "Transformation" of a eukaryotic cell also may refer to the formation of a **cancerous** or **tumorigenic** state.

DETD . . . cells also are known in the art and include viral promoters such as that from Simian Virus 40 (SV40), Rous **sarcoma** virus (RSV), adenovirus (ADV), bovine papilloma virus (BPV) and cytomegalovirus (CMV). Mammalian cells also may require terminator sequences and poly. . .

DETD . . . identical to the human P2X.sub.6 receptor described herein which is expressed at high levels in skeletal muscle (Urano et al. **Cancer** Res. 57:3281-3287 (1997)). Additionally, this gene is inducible by the p53 **tumor** suppressor gene product, suggesting that the human P2X.sub.6 receptor plays a role in skeletal muscle cell proliferation and/or differentiation. Therefore, agents that modulate

the activity of this receptor may be useful as therapeutics for musculoskeletal disorders such as **sarcomas**.

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L20  ANSWER 5 OF 8  USPATFULL on STN
ACCESSION NUMBER:        2001:51805  USPATFULL
TITLE:                   Nucleic acids encoding a functional human
                         purinoreceptor P2X3 and P2X6, and
                         methods of production and use thereof
INVENTOR(S):             Lynch, Kevin J., Gurnee, IL, United States
                         Burgard, Edward C., Libertyville, IL, United States
                         van Biesen, Tim, Chicago, IL, United States
PATENT ASSIGNEE(S):      Abbott Laboratories, Abbott Park, IL, United States
                         (U.S. corporation)

                              NUMBER        KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 6214581        B1    20010410
APPLICATION INFO.:       US 1998-191136          19981113  (9)
RELATED APPLN. INFO.:    Continuation-in-part of Ser. No. US 1998-8526, filed on
                         16 Jan 1998, now abandoned Continuation-in-part of Ser.
                         No. US 1998-8185, filed on 16 Jan 1998, now abandoned

                                NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    US 1998-71298P     19980116 (60)
                         US 1998-71669P     19980116 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            Granted
PRIMARY EXAMINER:        Ulm, John
LEGAL REPRESENTATIVE:    Becker, Cheryl L., Goller, Mimi C.
NUMBER OF CLAIMS:        14
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      16 Drawing Figure(s); 16 Drawing Page(s)
LINE COUNT:              2829
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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